

GETTER MATERIALS FOR DEOXYGENATING AMMONIA/OXYGEN GAS MIXTURES  
AT LOW TEMPERATURE

## ABSTRACT OF THE DISCLOSURE

A method for removing oxygen from ammonia at low temperature is described. In one embodiment, oxygen contaminated ammonia is contacted with a getter material that includes iron and manganese that sorbs oxygen to yield ammonia that is substantially oxygen free. In one embodiment, the process of contacting ammonia with the getter material takes place at about 25 °C. In another embodiment the weight ratio between iron and manganese is about 7:1. In another embodiment, the getter material is dispersed on an inert support of specific surface greater than 10 100 m<sup>2</sup>/g. In one embodiment, impure ammonia is contacted with getter material including iron and manganese that sorbs oxygen and with a drying agent that absorbs water to yield deoxygenated anhydrous ammonia. In yet another embodiment, an apparatus consisting of a gas inlet, gas purification chamber and gas outlet that deoxygenates ammonia when charged with getter material that includes iron and manganese is described. In one embodiment, getter material and 15 drying agent are mixed together inside the gas purification chamber. In another aspect a method for producing semiconductor devices with high purity ammonia is described.